12 Streams 2020 #8 - CNXAPAC 2020 Summit Roundtable – Dec 4 2020

Rajnesh Singh

Good afternoon. Good morning. Good evening, or good night for some of you. Welcome to the CNXAPAC 2020 Summit Roundtable. We've had a very busy week over the last two weeks, we've had 10 sessions thus far, touching on very different thematic areas. And today we bring all of those learnings together to talk to you about what we've learned across those 10 sessions.

As well., we have a great lineup of speakers, innovators and experts in themselves, who will discuss some of those findings, but as well give us some of their own thoughts on what role they think connectivity plays, but as well what role complementary access technologies, such as community networks, can do to help us connect the unconnected.

Now we have -- there's multiple dimensions to connectivity, of course. And the reason we had so many different thematic areas, there were a lot to get through. I've sat through all of them. So it's been quite has been interesting. It's been a learning experience for myself, even though I've been in this field for a very long time. But as well, it also demonstrated to us how people approach connectivity, and what they can actually do with it, which is quite incredible in itself. Sometimes you don't realize the sort of things people are able to do. Often we talk about the empowerment, Internet connectivity provides, how it can help with social improvements and economic improvements, and so on and so forth, but rarely do we have a chance to actually see it firsthand.

I think with some of the people we've had speaking with us, and commenting from the participant's point of view, we've really been able to see the difference connectivity can make.

So, with that, I'm very, very happy to introduce my panelists today, we have Pak Onno Purbo, Indonesia's Internet liberator, from Indonesia. We have Atsuko Okuda, who's the Regional Director for ITU, the International Telecommunication Union. She looks after the Asia and the Pacific base out of Thailand, but from Japan originally. We have Mahabir Pun from Nepal, he founded the Nepal Wireless Networking Project, which has been doing a lot of great work connecting remote parts of the Himalayas. More recently, he set up the National Innovation Center in Nepal, which is also very interesting thing that we'll hopefully talk a little bit about later on today. We have Mary Grace Mirandilla-Santos from the Philippines. Grace, as we call her, has been working in ICT regions for a very long time, I've known her for a long, long time. She has many hats, including, you know, the convener of the Broadband Alliance in the Philippines. As well, she is the VP of policy at the Internet Society Philippines Chapter. Last, but not least, is our good friend, Osama Mansar, my co-conspirator for this event CNXAPAC. He, of course, is the founder of Digital Empowerment Foundation. He and I togather started on what we call the Wireless for Communities Project 10, 12 years ago, and so we've been able to see the difference connectivity can make. Osama, the dedicated person he is, is joining us from a car because he's traveling at the moment, and I'm hoping we will mute out all the road noise whilst he's here, but thanks, Osama, for joining in on the efforts.

We will try not to waste too much time, the format itself today will be very conversational. There'll be no long speeches, as my panelists have assured me. We will not be using slides, we will try and have this in a very conversational sort of format, keep it dynamic, keep it moving.

Before we get to that, I have my two colleagues, Sarah Farooqi and Sarbani Belur, who will give us a very quick overview of some of the things that were covered in these ten sessions that we went through. As I mentioned, each of those sessions was thematic, they touched a particular area. The reason we did that is, to demonstrate that this whole issue about, not just connectivity, but using community networks, it's all about people using it, it needs to be meaningful, they need to be able to do something with it. So, the idea was to mainstream a lot of these issues. Sometimes we talk in silos, we may talk about, for instance, gender issues, we may talk about indigenous community issues, we may talk about business models, etc, etc. but they tend to happen in silos. So, we thought this year we'd bring all of those things together, and try and mainstream that as a key point of discussion, so I'm hoping we've achieved that. We'll hear from Sarah and Sarbani shortly on each of those thematic areas.

With that very brief introduction, Sarbani has been with IIT Bombay but, as well, she is the Regional Coordinator for APC in one of their community network projects, and Sarah, of course, is with the Digital Empowerment Foundation, and she's been quite instrumental in putting this event together with me. So let's begin, and by the looks of it, Sarbani, you will talk about session one?

Sarbani Belur
Yes.

Rajnesh Singh
Okay, wonderful. Please just introduce the theme of the session, and then the points you have.

Sarbani Belur
Yes. Thank you, everyone, thank you, Raj, and hello, everyone, I'm Sarbani. I'll be giving you a brief outline about what have been the discussion points in each of the thematic areas that has been discussed over the past two weeks in CNX?

Topic one was on Community Network Models and Best Practices. Some of the things that came up in this discussion in the discussion balls that in many countries, like Indonesia, the significance of the Internet lies in playing a democratic role. However, in a place like India, licensing is a big issue. The license regulation cost is very high, and there are many other binding regulatory factors alongside that inhibit ISPs to reach the last mile. GSM based technologies are a more viable option in rural areas, and for making a model sustainable, and using low cost routers and devices is crucial for community networks.

The second session was in the same day, on Access During the Pandemic, Saving Democracy, Citizenship and Education. The important points that came out of the session were: Having human rights is not enough, digital rights are equally important; Community network development can be a solution to provide access to education, as well as providing information on COVID preventive measures. By implementing online education, one should take into account factors like pockets with low Internet or digital services, and the difficulty in using technology by teachers and students, came up as one of the important things, and activity is necessary for timely dissemination of information with respect to the [inaudible]. Over to you, Sarah.

Sarah Farooqui
Yeah, hi, everyone.

Topic three was on Policy and Regulation for Mass Adoption of Community Networks. Some of the points that came across in this session were, that community networks are playing a pivotal role in providing affordable internet to every community across geographies, and therefore, it is our collective responsibility to lower the barriers that go beyond just policy and regulation. The other point that emerged was that universal service funds can support forms of innovation, and fund community networks, especially in locations where these are commercially non-viable.

The fourth topic was on Community Networks as a Model to Fight Misinformation and Fake News. Here the points that emerged were, first, that connectedness of community needs to be capitalized by community leaders, on how every information that is passing through can be verified and not blindly believed, especially if we are to fight fake news. The second was that facts are important, and the truth alone cannot be established without having these set of facts, and this is how democracies are getting into peril at the moment. It is also important to provide digital literacy, so that people can identify misinformation, and we can not only rely on the government, it's our collective responsibility to advocate and educate people so that communities have skills to best utilize and leverage the Internet. The last point was that we can use community networks to bring digital literacy into the community builds, to fight fake news and misinformation. Over to you, Sarbani.

Sarbani Belur
Thank you, Sarah. Then, also on the third day, we had two sessions organized.

One was on Gender and Gender Sensitive Community Networks. We spoke about the concept of how gender is incorporated in the community networks and the four points that emerged out of this session where there are other forms of gender identity that needs to be taken into account. It is just not men versus women. But there are other genders that needs to be taken into account. Access Points are not taken into consideration, with denizens of rural areas. Women should naturally be included in community networks, but due to the male-centric approach, they do not feel welcome and connected. And they are eventually they are left behind in the connectivity journey. Gender sensitivity has to be an ongoing process, and the process of initiation is highly important. Women are notgiven opportunities to become experts, as they haven't been included in the processes from the scratch. In some communities and contexts, the cultural aspect along with bridging the barriers of class and cast need to be taken into account. It is very important for various contexts, like the cultural context of Asia.

On the same day that the session was organized, there was another session that was on Content, Context and Community for Community networks. In this session, the important points that came

out from the session, after the discussions, were, the community networks should be owned by the community and for the community, bringing external knowledge that is useful to locals through digital catalysts and platforms, as an important intervention for locals and for communities. Community networks can help promote local products, and that would help with economic empowerment. Some of the other communities mentioned about this being a sustainable business model for them.

Over to you, Sarah.

Sarah Farooqui

Thanks Sarbani. Then we had the seventh topic, which was on Community Radio and Broadcasting with Community Networks. Here the main points discussed were that community network and community radios complement each other, they're not replacement for one another, instead, they go hand in hand, they go together. We need some capacity building in line with the new scenario of community network broadcasting, the broadcasting is still being done in the analog method. The time is to have a reorientation along with reskilling, deskilling, and upskilling. There needs to be technical synergy between radio and community network operators, everyone should be able to access the Internet and the governments need to treat it as a human right. If we can have community networks in place, we can have more impact in people's lives and have more access to information. So, the last point was that funds and capacity building are both important in order to sustain the working of community networks, as well as equipments.

The eighth topic that followed on the same day was on Training and Cadre Development of Community Networks. The points that emerged here were that early adapters to technology among women should be identified and given an incentive to utilize, as well as leverage, the full potential of technology. Infrastructure should be built on the capacity of the community without putting a limiting line on what should be done or not. We need to study the real gender gap in the staffing of community networks. simply stating that women are welcome is not going to really bridge that gap. Different people may have different areas, yet a lot of community network training appears to be boilerplated, going through everything and focusing only on the technical. There is an opportunity to segment training into different aspects such as technology management, digital literacy, and to provide better relevance to different people. The training of different skill sets therefore has to be provided depending on the interest, as well as the requirements of the people.

Over to you, Sarbani.

Sarbani Belur

On the last day we had a discussion on Partnerships & Collaborations for Community Networks, and the points that emerged out of the discussion, that there should be a culture of sharing and collaboration, even in community networks spaces. [inaudible] use social media to dissipate information and provide assistance to people who wish to establish a community network. There was the next point that there are three success factors for community networks, gaining trust, cooperation, and involvement of the community. Without partnerships and collaboration, community networks would never have been possible. In fact, multi stakeholder model is a hallmark of the possibility of community networks, and it is important to bridge the gap between policymakers and the communities, and how this component is missing most of the time, we often see that this component is actually missed out, the linkage between policymakers and the communities, the work that we do on ground.

Then the last topic that was discussed was Connecting Indigenous Communities. That is the last session where we had discussions around how connected indigenous communities have been done by various practitioners [inaudible]. And important points of departure out of this conversation was that Internet was important for indigenous communities to understand the various innovations that are coming, and how communities can benefit from those innovations. In diverse countries, like India, what is required is content in local language, websites with local traditional practices of the communities. The Internet is helping younger community members to continue their studies during the pandemic, when access to basic education is difficult. The Internet is also emerging as a new tool to help High Arctic communities in Canada, not just survive, but thrive as well. As preservation of cultural, language and traditional knowledge is required. Internet can also be used to connect with other indigenous communities around the world to share similar experiences.

So, yes, over to you, Raj.

Rajnesh Singh

Thank you very much, Sarbani and Sarah. And I was saying, you both had a very good tag team going there between you two, so well done with the seamless interchange. And, in fact, as I was watching you both do the tech teaming, I was thinking back to when I was a younger person, and you know, wrestling used to be very famous in TV, and they used to have these tag team matches so, for some reason, it made me remember those days. But anyway, thanks very much for that.

As I think we saw from what outcomes we had from the sessions, over those 10 sessions over five days -- so just for clarity we had 2 sessions a day spread over five days over the last two weeks,

just to make it manageable, because we know people having zoom and online fatigue as well, and I think it's worked out pretty well. The other thing that it did, of course, was it allowed people to focus in what was their key interest areas. So, we saw a lot of people attending, but there were, of course, focused on on what the background or their interest areas were, which was great.

Now, as my panelists, and for the audience who are tuning in today, what should be obvious by the reporting artists is that we had a lot of work a lot of words and terminology that we seem to hear generally everywhere. So, a lot of these issues that are in and around community networks are not anything new per se. What is new, however, is trying to get the people who are probably the hardest to connect, to get them to try and benefit from some of the digital opportunities, to get them to try and be a part of the digital economy. And then I was just making a quick list of some of the words that you hear time and time again, if you've been to conferences, or you read reports, etc, etc. Trust, collaboration, agenda, economic empowerment, digital rights, and human rights, regulatory and policy linkages, that one keeps on coming up, particularly when we start getting into the nitty gritty of things, how are we going to make things happen.

But before we dive into that, what I want to do is bring in my panelists for some opening comments. Now, connectivity is fundamentally a tool, right? And today, you know -- let's say 30, 40 years ago, connectivity perhaps meant that you had access to a telephone call to make a voice call somewhere, or you could get a fax, or send a telegram, or whatever it may be -- but today, connectivity means having access to the Internet. And what we do with access to the Internet really determines how useful it can be, right? And you will notice that meaningful connectivity is the overarching theme for CNXAPAC this year. Now, once we have connectivity, and we are able to figure out what we're going to do with it, how we leverage the Internet, and all the opportunities it provides, that helps shape our social economic development and, of course, it helps empower us. Sometimes, I feel that we lose touch of that little point. And why I'm saying that is, if you listen to the session about -- the capacity building session we had -- it talked about how, when the training is done, it's training on everything, but focusing on technical, so the mentions of other things, in how to manage stuff, digital literacy, etc, etc. But fundamentally, it's a tactical training program, so people can go out and deploy networks. So, that's very important, but at the same time, we need to be able to figure out what people will do with connectivity. So there's a management aspect, there's a governance aspect as well, for instance. So, sometimes I think we slightly get a -- lose touch of what all needs to be done. Someone might have a lot of money, and say okay, we'll help deploy some networks. It can be a community network, it could be base stations, it doesn't matter, just getting the connectivity in place, but equally important is ensuring that people are able to use them meaningfully.

So, I'm going to pause there, and I'm going to ask the panelists, what does connectivity mean to them in today's day and age, and how would they contextualize it to the discussion we're having here today. So let me start with Pak Onno.

Onno W. Purbo
Thank you, Raj,

I have two meaning into the access to the community. First access to the Internet and communication, second is access to knowledge. To give us some idea, we have 10,000 villages in Indonesia without any communication or Internet, out of 80,000. Okay. For the knowledge we have about 200,000 Primary School, and we are having problem because of the pandemic, student have to go home, and they have to access the knowledge. Now, the solution. I'm an engineer, so I tend to give solutions.

For the access to Internet and communication, fortunately, about two or three years ago, the ministry signed an act that people can deploy experimental network. So, that's a good one. So, what we do is we basically empower people, giving them knowledge, how to build this thing. The important thing is not about the technology, the important thing is they can build this thing, and they invest their own money, and they build their own network, without government money. So, today, we have about 60,000 community networks in Indonesia because of that. So, that's one. Some of them, the speed is around 300, up to one gigabit per second, of the network. So, we built those networks ourselves.

The second one is the access to knowledge. So, next year, I'm trying to convince the minister of education, and next year, we will deploy Internet Offline, I repeat Internet Offline. So, the idea is very simple. We download all the -- because the knowledge for school is actually not that dynamic. it's quite static. So, we download all the material into small server, using Raspberry Pi, which is only $50, and the whole system may be about one or not $150, and be deployed maybe next year, we will be deployed in Papua.

So that's from me. Back to you, Raj.

Rajnesh Singh
Okay, so there's something you mentioned that I'll come back to, so I've made a note on that. That was about the offline Internet. So that's -- okay, so we'll come back to that.

Onno W. Purbo

Okay.

Rajnesh Singh

Atsuko, can I bring you in? You've of course -- ITU has been involved in this space for 150 years or something now, but you yourself have been involved in a whole lot of things, including with the work you've done when you were with the UN. So what's your thoughts on this?

Atsuko Okuda

Thank you, Raj. And I would like to respond to your last question. Regarding, you know, what does it mean in this context, and I want to highlight COVID perhaps, and what it means, I think, to this community. From where I stand in ITU we see a lot of new developments, positive and negative, perhaps due to COVID-19. We see that a lot of countries and sectors, which have invested earlier in the digital platforms, moved on to digital platforms seamlessly. So, they continued. However, as you know, this pandemic really accentuated the existence of under connected communities. So, there is a rush, so to speak, at the moment, to identify where they are, and how best -- how can we accelerate this whole process, nationally, regionally and globally. As you know, in ITU, because of COVID-19, we are working with UNICEF, for example, and we said that the schools needs to be connected. And there is an initiative called Giga to connect all schools. But it's not only schools, but also to support communities as well. And in cadence. As another example, we are in fact mapping out the digital device. The [Thai] government initiated, as you know, the Net Pracha Rat to connect all the villages, but it didn't mean that all the schools and communities and people are connected. So, there's last mile challenges, even in Thailand.

So, some of the previous speakers said about the funding, and CSO, perhaps Universal Access Funds to be used. It is true, I think there's more than [interruption] this fund. And it is used to accelerate the broadband connectivity, to be expanded. But the challenge, I believe, moving forward, is not really that part, it's just a matter of speed. COVID accelerated all of them to be, how can I say, speeded up? But, what is really missing in this conversation is what some of the previous speakers were talking about? How can we capitalize on the resources, and networks, and experience on the ground, so that that push really benefits this community? And -- this is my personal view -- it's not an engineering or technical questions that we are facing, it's really the social economic reality, on the ground in the community, that we are supposed to address with the technology, but this gap still exists. I don't think that we found out the perfect match, perfect model, and, perhaps, perfect example. So, I'm just thinking that there is a lot we can do more. Some of the topics, such as linkage to policy and regulation, how can we really link more in the

global value chains, and to energize the digital economy in rural areas, I think continue to be a challenge.

I have more initiatives that I can share, and I want to share, which is also an invitation for collaboration in the future, but I would wait for the next round. Thank you, Raj.

Rajnesh Singh

Thanks, Atsuko. So, this is probably a good point for me to bring in Mahabirta, because some of the communities that he's been working with are very remote, and I remember the stories he's told me about just the effort he had to go through, including carting equipment by hand and foot across mountains to just connect people up. So, there's some logistical challenges that come into play, as well. So, Mahabirta, what's your opinion on this issue of what connectivity means today?

Mahabir Pun

The connectivity that means 20 years ago, and connectivity that mean for today, for me, you know, it's different. 20 years ago, before that, actually, 25 years ago, when I was living in the mountain, I had to walk down five hours to the valley from the mountain just to make a telephone call. I did that for about six years -- six, seven years --whenever I needed to make a telephone call to somebody, I walked down every time, just to make a five minute telephone call. And then there was that time, then. Then, another thing I did is, for almost five years, I had to travel one full day, from the village to the nearest city, where there was internet access, just to check my email. I did that once a month, you know, to make telephone call or whenever I needed to make telephone call, I just walked down five hours down, and to check my email for five years, you know, I had to travel one full day to the nearest city, and spend a couple of days and then go back again. Shows that time, for me, connectivity means just to communicate with my friends through voice or through email, you know?

So, for me, connectivity means -- I mean, we can divide into two sections, one is voice communication, and still there are are low villages around the world, remote villages, that don't have voice and the means to communicate with voice. So, the voice communication is needed. That's one thing for initiating ideas, or talking about different issues, voice communication for remote areas, in poor countries. Then now, for me, communication means also getting data, or sharing data. Because, long time -- I mean 20 years ago -- the Internet was not that hard, and sharing big data was not possible, sharing pictures, sharing videos, and talking to each other, like this, we're doing today, was not possible. But, as the technology develops, so our requirement or need is increasing, sharing data on anything, sharing data for students, teachers, doctors, and all the professionals, everybody needs data to communicate. So, that means now, we need

broadband. So, connectivity now means -- many use will come -- means we need a broadband Internet, or broadband to get connected, and to get data. So, just a voice is not enough now, That's why, for me, voice in the remote areas, in poor countries, where people are living in the rural areas, it's voice communications, connectivity. And now, as the technology is progressing. So, we need data service through the broadband service.

Rajnesh Singh

Mahabir, you make a good point about data. And it also strikes me that there's also this issue around how much data is enough data, as well?

So with that, let me go from Nepal to the Philippines. I've been a longtime visitor to the Philippines over many, many years, and, like most Filipinos, I have also struggled with connectivity in the Philippines. So, Grace, what's your view of connectivity?

Mary Grace Mirandilla-Santos

Thank you Raj. Can I just say that I'm a big fan of the panelists who are here. Onno Purbo, I actually met him when I was a junior researcher. I joined the training course of Learn Asia, and I met him, and he's been an inspiration ever since.

So Raj, thank you for the question. As Atsuko mentioned earlier, I think COVID plays a huge role in how we define connectivity today. In the past, connectivity was a convenience for many Filipinos, simply because we didn't have enough access to infrastructure, but today, I would say that connectivity can actually define an entire generation's development path.

I would like to center on -- zero in on the impact of connectivity on education, it can spell the difference between a student continuing her education, or falling behind. The disruption brought about the COVID, as we know, has affected so many aspects in everyone's lives, and in the Philippines it has actually put many people below the poverty line, there are actually reports of students in the country who have to climb mountains, or stay up a tree for hours, just to get a decent mobile signal, just so that they can continue to participate in their online learning. So, this disruption, as you can imagine, is much much worse in rural areas, where people do not have connectivity. Just to put this into context, the Department of Education in the Philippines estimated that 52% of all public schools do not have access to any Internet facilities. And very recently, they conducted a learner survey where they mentioned that around only 3.6 million of the enrollees -- there are about 22 million enrollees in the Philippines in the public schools, and only 30.6 million actually have Internet access. So, that's 80 plus percent of students, who are now enrolled, don't have access to the internet, such that, the schools had to resort to continuing

education in the context of COVID, using TV and radio broadcasts. So, it's a one way broadcasting of learning information and material.

So, while there is still a space for analog technology, I think that every nation should really strive to connect every student in -- as we found out in COVID -- with every household should at least have access to the Internet.

So a huge barrier. I would say that the one of the key culprits to the lack of connectivity is really -- the Philippines still uses a very restrictive analog era licensing process. So, for any broadband network operator to be able to put up a network, any type of network, one needs to get a franchise from Congress as a first step to licensing, the second step would be to get an authoritation from the regulator. So, these two steps alone will take alone between one and five years, so, as you can imagine, small Internet service providers do not have the luxury of time and resources to go through this regulatory and licensing process. There is no special licensing for community networks in the country. So, even if you want to put up a network, and serve, offer Internet to unserved and underserved areas, there is no space for you in the regulatory process. Unfortunately, there is no policy for experimental networks as Onno Purbo mentioned earlier, we really need to have something as innovative as that.

And, of course, we are an archipelago, but, Indonesia beat us to having like 10,000 more islands, but we do need to use spectrum, because a wireless technology would be the most cost efficient to deploy in the remote rural areas. But then, licensing of spectrum in the country does not really cater to small players, it is only reserved for big telecommunications companies. And, usually, spectrum is assigned on a nationwide scale. So, even if you have many communities, outside of the urban centers, that do not have internet, in the spectrum there are not utilized. As long as that spectrum is assigned to the player, you are not allowed to use it on a site even on the secondary basis. So that is a big problem. Compared to the experience of other countries, accessibility to device is a not a problem, I would say in the in the country. A lot of Internet ready phones cost about $25. And it's you know, lower costs in the second hand market. And we we Filipinos are so fond of that, you know, we we love pre loved mobile devices. So that's no problem.

Digital literacy, however, is still a problem. But I think we can take advantage of the tech and social media savviness of Filipinos we are you know, very, it's very easy for us to adopt technology. And you know, as a, as an English speaking country, it's very easy for us to, you know, to access content online. So community networks are not able to take off, I think, because we do not give any space for innovative solutions. Or we don't even have, like any regulation for the use of let's say, emerging technologies.

So that I think sums up what the problems are in the country right now. Thank you.

Rajnesh Singh

Thanks, Grace, for that now, you've covered a whole range of things there. And I'm hopeful, we'll have time to come back to a few of those.

So, Osama, you're the only one left, so let me bring you in. And, of course, so a couple of things that were mentioned by nearly all of the speakers, one was the education angle, obviously, the other was the effects of the pandemic. And really what it was was the sense of urgency that was required to get people connected. I don't think the world did a very good job. I mean, I think where infrastructure was it was fine. Telecom operators, for example, came in with free data, data caps, and all sorts of other initiatives. But that was for people who already had access, right? The bigger problem was people who didn't have access, and in the case of India, Osama, you had one of the largest forced migrations in history, when all the migrant workers from all over India were basically told to go back home to their villages. And I saw the pictures on TV and read reports and all that, it was quite a distressing situation. So, I don't want you to focus just on that, but those people had the greatest need for connectivity, because they didn't even know what was happening. They didn't know where to go for information. So, could you perhaps approach it from that perspective, on what it means for the most disenfranchised when it comes to connectivity?

Osama Manzar

Yeah, thanks, Raj. I think by saying that you have already emphasized the issues in this part of the world, which is not only, I mean, India from that perspective, but this subcontinent which has got the highest number of unconnected people, and that's important. And when you were asking question to highlight about what does connectivity means to us. have us after about two and a half to three decades of connectivity. And and when Mahabir Ji highlighted how we have traveled from voice space connectivity to database connectivity, we have certainly migrated to that entire

Before I say something, I want to first place my gratitude to the invention and the innovation that because of Internet we all are connected, we all are talking in this time of pandemic, when we had nothing to rely upon. Half the world is at least connected, while we are blaming ourselves for half the world not connected, but thankfully half the world is connected, on behalf of ourselves, and also on behalf of the rest of the people who are not connected.

So, first putting that as a gratitude, but we have also reached to a situation where the connectivity means to all of us, is that we are so dependent on connectivity that our life is almost meaningless,

irrelevant, unconsidered, ignored, if we are not connected, and we are seeing this,. This person who is not connected is just not not connected. The person, like you said, the person who is not connected, in Indian condition, he may not have a food for the day, because of biometric not working on real time, and therefore his or her identification not matched, like you said, it's not about migrants going from one city to the other, but the point is that migrants didn't know where to go, and where the food was available, where they could do a calling, where they could get connected to their family member saying that we are safe even though we are walking back home for thousands of kilometres. So that is when you realize that is the connectivity alternative to oxygen and food? Is this that necessary? And if that is necessary, then it certainly bothers all of us that why it is not available to the rest of the people, or will it take another 30 years to make it available to the rest of the people, whether they are indigenous community living in remote areas who do not have affordability, like Grace said, that the main struggle is that even though there is a connectivity, I can't afford a mobile phone to be connected.

So, according to me, I would say the meaning of connectivity today for me is I will categorize them: unconnected, connected, meaningfully connected, and connected with constant buffering, so there is the whole community, which is constantly being buffered. They don't know where they're coming, or they're going where the buffering is happening.

Rajnesh Singh
So happens you're buffering right now, Osama.

Osama Manzar
So they are connected, in your data, 3.5 billion people. So [inaudible] are you meaningful? Are you being considered? Are you relevant? Are you contextual? That's the important thing. So, I think, since in on this, on this panel, we have Onno and Mahabir and Atsuko and practitioners like ours and all that, this is very interesting that all of us are in that situation where we must bother about how we go from here, from making unconnected connected, and those who are connected with buffering should be unbuffered, or should be gracefully connected, or meaningfully connected, or usefully connected. That's the challenge that we must take. Because, we are not going to be in a situation where we are going to travel from 5000 feet height of a mountain to come down and to make a call. Now, our life is disturbed if we don't have a data connectivity, we don't have a video connectivity, if you don't have a calling connectivity.

As you have read many news in the country, in India, that many of our girls students, boys students, in remote areas committed suicide. The school asked us to get connected to classes

online you know, and they were so paranoid and they were so devastated, that while they are many rich peer group were connected, these people were no connectivity.

So, not being connected, meaningfully connected, is disrespectful, disgraceful, being a distressed franchise, and violation of human rights. And that's the difference between the connectivity today, and the connectivity in the past. I will stop there.

Rajnesh Singh
Thanks Osama. You know, I wish we had like three or four hours to discuss, because there is so many things that are coming up in my mind now that I want to pursue, but I regret we don't have -- maybe we'll have to do this again, with the same panelists in the near future. So right now, Sarah, and Shivangi can we have our video

Because that is going to be very interesting, I think, for everyone here and whilst you..

Rajnesh Singh
Shivangi, are you good to go with that?

Shivangi Karmakar
Yes.

Rajnesh Singh
Okay Please go ahead.

And while she's doing that people who are listening and tuning in if you have any questions or comments please use the q&a, if you're on the zoom platform or you can use the chat windows

[VIDEO PLAYS]
...

Rajnesh Singh
Okay. I hope people will appreciate why I wanted to play that video. Just for context, that location is the latest deployment that the DEF and the Internet Society has done in India. And as you can see from the the timeline, it was tested in the last several weeks, or last couple of months at best, when this has been all put together.

What is striking is you had a community who really wasn't all that interested in the Internet. Yes, they use it for few things, as you saw them mention, for email, checking mails, getting some orders online, etc, etc. But day to day -- there's another interview that we didn't play -- a long interview where they said that they really didn't have any urgent need to have connectivity 24/7 day in, day out. But when COVID hit, things completely changed, as you saw the two people who run their organization there, it became critical, because the things they produced in the village, they couldn't sell it anymore. And if they don't respond to a customer in time, it becomes problematic, right? So, you can see there's a whole bunch of issues, a wide variety of dimensions that came into play.

And it was just, fortuitous in some ways that we were able to help this particular community in setting it up, and the community that exists is for a tribal area in southern India. And you can see they run a hospital, they have a farming area, they have a craft center, that they create things that --their creative things that they sell, and some food items as well.

So, it really goes to the whole point of why connectivity is critical. And sometimes where people even say that connectivity is not all that important to me, they don't realize the wider implications of saying that. So, what I want is some very quick reactions from our panelists on what they thought of what they saw in that two and a half minute video we just played. So, let me start with you Atsuko.

Very quick comments, please.

Atsuko Okuda
Thank you, Raj. I think that this video is a very eye opening. I think the new normal -- we cannot go back to that pre-COVID time. That's what I think. As the interviewee, one of them, said in the interview that, if you don't respond quickly, you will be seen as a -- maybe the customers would consider that as a fraud or not trustworthy. So, I think fundamentally the mentality, and the way how they deal with the digital services and each other in the digital sphere, may have changed. So now, of course, we consider us in the new normal, so to speak, but I think gradually, we should think about new, new normal.

What happens after we, let's say, get all vaccinated, and we will go back to a more normal life, but it cannot be a life that we knew before COVID-19. And I think this is a challenge, that what does that look like to all of us, to all of this community? And I think we have to catch that wagon, which is going very fast. And I think we have to really strategize on catching up technologically, and society, and perhaps business, and agriculture, and government services, which all moved on with

is the COVID and acceleration of the digital transformation. So, I think this discussion, as Raj, you said, is very important, strategic and timely. And, I think that now we have to really pull the resources and knowledge together, so that we can also accelerate at the community level to get on to the speed of digital transformation. Thank you.

Rajnesh Singh
Thanks. Atsuko. Absolutely agree.

Onno Purbo? I suppose a lot of things you saw in that video has also been doing yourself for a number of years, right?

Onno W. Purbo
Yes.

Rajnesh Singh
Well, you liberated Indonesia's internet, as we like to say. So any quick thoughts on what you thought of the video, and what [inaudible].

Onno W. Purbo
I wish many of this country in Asia Pacific can share this kind of video among us, and show to the government that the people have the capacity, the people have the knowledge, the people have the funding, they can fund the network themselves. We can build the network ourselves, if they allow us.

I'm really hoping if this can be organized, it can create big force to the government to change the regulation to be more pro people regulation, and empowering the people to build our own network. And we can be like an example for the world that Asia Pacific can build out their own network.

Sorry. Too big, I guess,

Rajnesh Singh
Oh, no. Big is good. If you don't aim high enough, you won't get there, I believe, so wonderful.

Mahabirta? Your thoughts? And again, you've done very similar work of course, so it again, wouldn't be anything new for you either.

Mahabir Pun

When I saw the video, it reminds me of the days I was working, in 2001 and 2002, 3, 4, during that time, it remind me those days. The good thing is that today we have wireless devices available everywhere, and very cheap. When I started to build wireless network in 2001, the Wi-Fi routers were just coming. Even in America, not everybody -- and people who are using the Wi-Fi router in their homes, they had dial up connectivity there in America. So, in 2001, I asked some of my friends in America for help to get some Wi-Fi routers, they sent me indoor Wi-Fi router that had a dish capacity to connect maybe 50 feet. So, using that router, we tried to build a long range connectivity. And for that, the problem was we didn't have any Internet. So, we had to build a home build antenna, we built a lot of different types of home build antennas, and just in in different ranges. And finally, with a big dish antenna, we became able to make a link, a 34 kilometer link with the indoor wireless outer. So, it reminds me those days, when we were just putting those antennas that we built on the top of the trees, and trying to connect, increase the range from five kilometers, 10 kilometer, 15, 20, 30 kilometers. We were doing like that.

So, now, we are still doing it. But, we're glad that all these devices, much more powerful devices, are available off the shelf, and that's the way to go. Many people still don't believe that using this -- especially the big companies don't believe that -- it's not possible to build a community network, like in the in the villages, that we saw, or in any rural areas, it is possible to bring Internet using these routers from off the shelf. So, it is good that Samaji and his team is doing this type of things.

I mean, still doing it in the mountains, but now on the mobile network is reaching in the rural areas more and more, and the voice service at least is available in about 80, 90 -- 85% of the rural areas. But still, we have that service not available in about 50% of Nepal. So, wherever data service is not available, I'm still using that same kind of technology, with more powerful routers, and more powerful antennas are available, and the cost is very cheap. So, that's the way to go. That's the way to bring Internet and bridge this digital gap in the rural areas. And that works, actually,

That works, actually. So, it's the procedure. Thank you.

Rajnesh Singh

Thanks Mahabirta. So Grace, I'm going to bring you in here, because we saw the video, we've had from Pak Onno. Previously, Mahabirta just said that the thing works. There's no doubt about that. We, ISOC and DEF ourselves, we've deployed over 150 of these in locations across South Asia. So, we know the model works. We know the technology works. We know communities get empowered. But, there still seems to be whole lot of policy and regulatory issues in and around being able to do that. Now you've hinted at some of those when you were speaking earlier. So, I

just wanted to bring you in to speak a bit more to the policy and regulatory obstacles that we seem to have. Why is it that -- and if you read all the reports, the world bank reports, or ITU reports, everyone is saying that broadband is critical for the future, we need to connect our people, if you do X amount of broadband deployment to X amount of GDP will grow, etc, etc, etc., but we still have the same problem, and I remember some of the reports from 10, 15 years ago, maybe they've changed the year on the report, and there's a new author, new picture, maybe different font, but much of the fundamentals remain in those reports -- so what is not happening? Why are we not getting there from a policy and regulatory perspective?

Mary Grace Mirandilla-Santos
I would say that I guess, greed is still in the way. I dare say that. Many of the interests that influence policy and regulation are still very much at play, and if we do not change the way we actually use policy to benefit the people, and not a few business interests, then there will be no change. But that being said, I would like to emphasize, of course, that there's a growing number of stakeholders in the Philippines that are pushing for reforms in the broadband policy. And when I say a growing number, I do mean civil society as well as business organizations, or some of the the biggest consumers of broadband. So, the poor connectivity doesn't only affect those in the countryside, it also affects even those who are already connected, and as Osama earlier mentioned those who are connected, or connected but not in a very meaningful way, or not at a desirable level. So, that video, to me, really shows that we need to use policy and regulation so that you provide connectivity in order to help the disadvantaged, those in the in the peripheries. And I think that any politician would want to use that, it's a powerful message that they are for connectivity, therefore they are pro people, as Onno Purbo mentioned earlier. So, it is also a way for people to -- especially those who are connected for the first time -- it's a way of telling the world that, hey, we exist. So, we need to find a way to use connectivity in order to put a face in those statistics of people who are not connected. And that, to me, is a very powerful video there. where a never before connected community is somehow now connected. And they're using the internet in ways that probably many of us did not imagine to be that useful.

Rajnesh Singh
Thanks, Grace.

So, Atsuko, I want to bring you in here, because the ITU does a lot of work with governments, you yourself have personally done a lot of work with governments. Now, we do know some governments have a very liberal approach to these things. Yet, sometimes it feels that pace of change is slow. Now, that's not a new thing, either. I come from the telecom world, not from the Internet world. So, I went through the deregulation in the 90s, for instance, where being a telco in

those days was not very comfortable, I can tell you that, because you just didn't know what was going to happen. So, I've seen both sides of the issue.. But, at the same time, we also know that in a technology, we keep on saying it evolves rapidly. But, sometimes -- it's not sometimes -- most of the time, policy and regulation doesn't seem to cope with the pace of change. Yes, there's processes involved in protocols, etc, etc. But do you have some thoughts on how maybe some of that could be accelerated?

Atsuko Okuda
Yes, thank you for this very important question. Now, I think COVID also affects how policy makers and regulators see their own roles. I think it's also evolving. The reason why is that previously we were all converted that ICT needs to be play an essential role in society. But now that demand because of COVID is coming from other sectors, from education, from health, from agriculture. So, what happened a few months ago was that there was a BIMSTEC summit, where all the heads of state and the ministers attended, and the topic was about digital. That due to COVID, they need to shift to digital, but they didn't have the infrastructure, they didn't have the services, applications that were required. So, the ministers, who are not ICT ministers, are talking about all digital, and I see that in many meetings. Now, the demand, the huge demand is coming not from ICT sector or ministry or regulator. It's coming from the other sectors. So, what I see is that it's an opportunity, it could become a challenge if we cannot fulfill and deliver. But, the fact that the ICT sector itself has been elevated, and now perhaps the ICT sector policy and regulators will have more leverage in terms of the budget, in terms of the visibility in terms of the whole relationship with the donors. So, I think now that changes could be accelerated, due to many different factors and circumstances, as we discussed just now, so I think we should capitalize on this opportunity. And this also present an opening for this community to be more influential, because you also represent the people, and people's voice, which I think will be heard, and still there will be more willingness and readiness on the part of the ICT ministry regulator to hear, because at the end of the day, they have to work with you, they have to work with this community, to get that connectivity and information to the community level. So, I think it's COVID that could be changing the mindset of a lot of people. Back to you.

Rajnesh Singh
I think you make a very good point there that there's this sense of urgency that we probably can capitalize on right now. And at the same time, I would also think -- caution the fact that -- I think that window of opportunity is also quite small. Once a vaccine rolls out, and let's say it takes a year, whatever it takes to vaccinate most people around the world, then suddenly the urgency may go away. So, I think we have this limited window of opportunity that we need to capitalize on. And I also feel it's not just one group, it's not just ITU, or ISOC, or DEF, or Pak Onno's work, or

Mahabirta's work.. You know, I think it needs to be a collective approach that hits it from multiple points, right? Because the sense of urgency is there. And the other thing that resonated with me, right there was that, you know, we need to tap all the other sectors will keep on saying I've been saying for a long time that ICT is and going digital, it has to be cross cutting, it has to go across sectors, it's not an ICT ministry thing, right. And I think again, this is a great opportunity for us to capitalize on that.

There's something you mentioned, Atsuko, took about applications and the greater dependence on technologies. And I wanted to bring Osama in here for one very simple reason. Osama, India has some great aspirations, Digital India, Making India etc, etc. You've got your national digital ID system Aardhaar, for instance, as well, but yet -- the country is fully connected, right? So, the reason I'm asking you this -- obviously, we're saying that in rural areas, things like community networks could connect a large part of the rural areas, but you still have a huge gap. So, on the one hand, you want government which wants to go all digital, and on the other hand, you have roughly at least half the population which is not online yet. So, how do you balance those two? Is it practical?

Osama Manzar
Yeah, Am I audible to all?

Rajnesh Singh
Yes, you are

Osama Manzar
Okay, so I actually thank you for calling me in at this point of time. I was actually trying to bring in that government angle, and the enabler angle, into this connectivity, especially from the perspective of that video that we showed, that there is nothing unusual about that video and that community, because they are part of the world, they are part of the community. And yet, after 25 years of Internet, they got Internet now. But, the point is that is not extraordinary that we did, except that there was a point where Internet was connected, and the government body had provided the Internet, but beyond that point, to the last mile, to the last house, it was not connected. And that's what we enabled.

And then that brought us to think that government of India has brought Bharatnet which is supposed to connect to each village council, and they brought in half those village council, but none of those connectivity works, why it doesn't work? And why community networks, or any innovation, is not connecting all the world? And I thought there is to very special reason that we

are unable to connect people, because we are dependent on regulation, we are dependent on funding, and we are dependent on some other entity to do your work. It's something like if you want to live in a house, would you always depend on an architect? Will you -- for eating food, will you always depend on a chef, or somebody else, to cook your food? So why we have not been deregulated, unlicensed, and untechnologized the entire Internet in such a way that everyone can take the responsibility, without barriers, to connect themselves from wherever they can. So, but because even today, even if I have resources to connect myself, I cannot. I have to take licensed Wi Fi thing, which one is the is the allowed equipment, which is not allowed equipment, and all that. There should be only broad, big, brief framework. If I'm building my house, I should just make sure that it doesn't fall on my head, that's it. If I'm eating food, I should not eat poisonous food, that's all. So, when I'm connecting, I should not violate, let's say, a surveillance system, or or whatever, I think, the cross border things, or those kinds of things. We should not be panopticon, or something like that, but just connecting should certainly become untechnologized, should become unregulated, unlicensed, because at the end of it, I'm just connecting to connect people, connecting to my food, connecting to my requirement, connect to talk to people, connecting to video, connecting to transform communication. I'm not a military agency that I'm trying to connect to kill someone, or something like that. I just want to do my basics. Why should I be dependent on ISP? Or, you know, USP, or USO fund, government or anybody? So my thought process is that unregulization, under unlicensization, non-dependency on fund, and only dependency on capacity building and training, so that I know what equipment is required, I know how to connect, and that's it.

So it should become household phenomenon, it should become my daily necessity. That's how I would like to react, and try to put in here, thank you very much.

Rajnesh Singh
So, the thing you mentioned about connectivity getting to the village council, on a [inaudible] level in India, it strikes me that one of the things that I think a lot of us, who have been deploying networks, have struggled with is backhaul, right? So, at least on paper, the backhaul seems to exist in India. But, we haven't solved the last mile problem. And yet, even with all that in place, and all that in play, we're still not getting there. So, Pak Onno, can I bring you in? Because you've had some fun over the years in Indonesia with all those sort of regulations, and just getting on and doing things. So, you want to share some thoughts on how you did it? And where you think we should go from here, for countries like the examples here?

Onno W. Purbo

Okay, we -- to give you some example -- we actually building a wireless backhaul for about 300 kilometers, and its operation. But I will not talk about this. I will talk more on the strategy level. I think I admire what Osama said, really seriously. I think we need to change our mindset. Yes. If we want to connect to the Internet, the government will go and regulate. If we want to have a private network, not a public network, then the regulation is not accessed.

That's the key. That's our way actually, we are building private network in Indonesia, the community network is private network. From the school to the student is a private network, it's not a public network. We connect the surrounding houses, it's a private network, it's not a public network. So, we use that approach to overcome the regulation problem.

So, Indonesian is a little bit tricky people sometimes. So, we see the hole -- oh okay, this is a hole -- so we use that hole to build the network. That's how we build things. If we go for a public network, forget it, the government will kill us. So, we go to private networks. So that's one, the mindset.

The second one is the strategy to win the war. We have three options. First, we have the power. The government have the power, we don't have power as people. Second, we have money, we don't have money. So, we have to have people. So, we use people power. How can we build people power, we educate, we empower people, then we build the people power.

To be honest, it's not enough, the three is not enough. When we liberate 2.4 gigahertz Wi-Fi frequency in Indonesia, we need outsider, international communities, to acknowledge our work. So, like you guys inviting me, that's really like acknowledgement for us for innovations, You creating a pressure for innovations that what we did, what we do in Indonesia is acknowledged by you guys, and that's actually creating a big pressure to government look in recent government. The Indonesian community network is acknowledged by Raj, by DEF, by Internet Society, then the government will think, okay, our view is not that bad. We need to change the regulation.

So we need to be a little bit tricky on that one. Sorry. I said we are tricky guys! Back to you, Raj.

Rajnesh Singh

Thaks very much Pak Onno. That was good, actually. And I particularly like your pressure idea as well, indeed,

So, I think most people kind of come back to this licensing slash regulation issue as well. But also connected to that -- and I think some of us have mentioned funding, as I see a question in the q&a

about what sort of strategies can we use from the funding perspective? So, there's multiple sides to the funding. One is the actual capital expenses required to deploy the network, then you've got the operations and maintenance that go with it.

Now, if we have some donor that steps in and gives you the money for, let's say, two, three years, that's all great, but what happens when the money dries out? Where does the money come from? Now, there have been some innovative solutions that we've come up with, in some of the work that we've done the community actually generates income from the network, so that that's one way to pay for it, but that is not always the case everywhere. So, Mahabirta, can I bring you in, how have you ensured a bit of sustainability with some of your networks, particularly when the donor funding has gone, or whatever other external funding has gone, how can the network keep on growing and servicing the community?

Mahabir Pun

Okay. We -- like we said, our network is community network, we have a license from the government, what they call rural ISP license. We get that license by paying a $1 as a license fee. So, to make this community network sustain on the long run and work. So, the first thing is, the community has to own it, community needs to own it. And mostly my role for building this community network is to provide them technical support, I frankly tell them that I am not the one to raise the funds to build the network for you, you have to raise funds. And I also tell them that if I get some funding from the donors, I can provide that. So, that's why from the very beginning, you know, I made this community aware that they have to take over it, they have to maintain it. So, also, they have to have a technical person to maintain the network. So, at the beginning, from the very beginning, we train the people from the local areas, to learn how to fix the problem, how to troubleshoot the problem there.

So, that's the one thing, technical sustainability is very important, because if people cannot fix it, then then it will not run for a long time. So, technical support, technical sustainability, we have to provide technical training to the local people, and the community has to find that local people. When we don't find the local people to train, they have to find the local people, they have to find ways to pay them, they have to find ways to pay for the Internet bandwidth to the service provider, and also they have to find a ways to fix the problem if, for example, lightning strikes the devices and break it.

To do that, we have to do a lot of capacity building things, capacity building trainings, not like once or two times a year, whenever it is needed. Our wireless networking projects provide capacity building training whenever they need. And also the community have to make money to pay for the

operation and maintenance costs first, and pay for the Internet bandwidth costs. And that's their role. And our role, my role, or our project's role, is to provide them technical support, if they have a huge, bigger problem, technical problems, it's only then.

So, community must be involved. Without their involvement, it is not possible to make this community network running for a long time. I have some examples of like that, some communities, because I have built community networks in many villages, over 50 community networks are there. So, some of those community networks that we built didn't work, because the community were not ready to do that. They didn't maintain it, they didn't find ways to keep it running, they didn't work hard. So, they were not serious about building and maintaining it. But, those community networks where the community have aken all the responsibility, it's working very well.

And so, that's my experience now.

Rajnesh Singh
And that, again, is a critical point. So, in the networks that we've been involved with, one of the key criteria we look at is, is there a champion in the community who will take charge of this and be a champion in the community. And the second part to that is ensuring that there is capacity within the community, and you train the people. So, we like to say by the community, for the community, with the community, and the reason is -- and it goes toward Pak Onno was saying that it's got to be for people. Because you don't, and I saw a comment as well someone was making about you have to rely on -- if you keep on relying on outside help to do things, it's not sustainable. So, these are some critical points.

But yes, as Maharbirta has also said, there are also instances where the community has not been able to cope with it. So, you know, so that, I think, is a category of issues that we also need to look at, you know, for the communities who are ready to help themselves, and be helped, I think there's a way forward. But, there's also a segment that -- it can be for many reasons, I'm not trying to knock down why they can't create a champion, and there'll be some other reasons at play there -- but, we need to realize that there are some categories were a little bit more help is needed.

Now, one other thing that I wanted -- and we sort of touched upon it earlier -- was this issue about USOs, Universal Service Obligation, universal service funds. And since we're talking about the thing about funding, from my point of view, we need to get on with the job of connecting people. We've heard from testimony with all our speakers, and including some of the comments from the chat and q&a, that there's a sense of urgency around connecting people. We also have the

instance where we know that complementary access technologies like community networks, and there are the examples, not just CNs, but since we're talking about CNs here today, we can do it quicker and cheaper. So, why don't we just embrace that, and start tackling some of this USF and USO funds to achieve connectivity for all?

We know of instances in many countries where there's a pool of money lying there in these funds, because people who can access that is very limited, there's criteria that needs to be applied. Sometimes it's the telecom companies themselves, they contribute to it, and then if they want to connect a particular part which is unserved or underserved, then then they tap on those funds, or the government gives out a grant or something like that, but maybe we need to be a bit more innovative in how we look at these funds.

Atsuko, any thoughts on that?

Atsuko Okuda

Thank you. It's a very important point. And I agree with you, Raj, that we have to be innovative and capitalize on this urgency, the sense of urgency among everyone, the policymakers and regulators. So, for instance, Thailand, the regulator decided to release money to connect hospitals. And, I believe that Pakistan released the funds to expand the broadband, the fixed broadband networks within the country, so the speed is three or five times faster than before. So, there will be opportunities. However, as you know, the criteria wouldn't be easy, the objective of the fund is sometimes narrow, depending on the country, and accessing it could be challenging, it may take some time, and there may be additional requirements. However, I would like to also add the international aspect, which kind of becomes an additional force to the whole discussion that we are talking about. Now, the recognition on the importance of connecting the communities or supporting communities has been increasing, and because of the reasons that we just discussed. So, for instance, in ITU we have been, as you know, promoting the idea of smart village, smart islands, which is perhaps an overall framework of the support that we want to provide to communities. And yesterday, this week, we organized a forum with FAO, and FAO is also recognizing the needs to accelerate the digitization in the agricultural sector, so they are exploring and discussing the digital village idea, just to accelerate this whole concept. So, the urgency is there.

And all the -- how can I say -- the key ingredients are building up in the international community, as well. I think the next step forward, for me, is with the USO, with these initiatives, and with the additional funds which may be coming on the way, I think we need to strategize among all the key partners, to capitalize, so that we will not be seen as competing. I think that's the last thing we

want to do. I think we have to create synergies and partnership so that those resources can be channeled to accelerate the process, and to address the challenges that speakers mentioned. I hope that it makes sense to you?

Rajnesh Singh
No, it does. Absolutely. And, for a while, and not just in this area of work, but in some other areas of work that I've been involved with. The amount of duplication and replication that happens across organizations is just wasting resources as well. So, I hope we can get to that stage, particularly when we know we need to connect everyone.

Now, my timer has gone off saying me that we are actually over time now. I didn't realize how quickly the session went. So, I have to apologize and say that we do now bring the session to a close, because I have I don't want to stress all of the people who are helping us with this, including our panelists, and I want to impinge on your time any further. So, what I would like is some very quick last comment from everyone. And the question I ask you to answer is very simple. If there's one thing we need to change to achieve connectivity for all, what is it?

So just one thing, starting with you, Grace?

Mary Grace Mirandilla-Santos
Oh, I was hoping to be the last one.

Well, we need to change our mindset about connectivity. It's not just a business of connecting people. It has to be connectivity to empower people. I think once we establish that link, and put that in the hands of people who can actually help themselves, then I think we can achieve better connectivity for more people. Thank you.

Rajnesh Singh
Thanks Grace. Pak Onno?

Onno W. Purbo
Thank you so much. I wish we, Asia Pacific, build a repository that we can share our experience, either video, text, or whatever, that way people can see that we are capable to do these things together.

Thank you, Raj.

Rajnesh Singh

Thank you so much. Mahabirta?

Mahabir Pun

For me, the technology, the hardware, software, is increasing and developing at a very fast pace. So, what I'd like to see is the content side, more in the content side, because even if we bring connectivity, and connect people with the Internet, or any other data, we don't have -- in most of these poor countries -- we don't have enough data that is in their own language. So, I would like to focus on more data, and also the services, because, for those people living in the in the urban areas, there are a lot of services available, but for the people living in remote areas, in poor countries, poor communities, they don't have data or the content that is useful for them. So, I would like to focus more on that, and do some innovations, how to find how we can do that.

Rajnesh Singh

Okay. Wonderful. Atsuko?

Atsuko Okuda

Thank you Joining hands, of course. Connecting the dots between the community as well as -- and the policymakers and regulators. But, I think we need to join hands with other sectors, health, education, agriculture, business. I think then more ideas and support may come from these outside communities as well. Thank you.

Rajnesh Singh

Wonderful.

Osama, my traveling friend?

Osama Manzar

Yes, thank you very much.

The good thing is that Internet is working while I have traveled in the last one and a half hour at least hundred kilometers. So, I think that should be the statement, why not the Internet is so seamlessly available to everyone, where it becomes a necessity. So, I would say, it should not be a privilege, it should not be an entitlement, it should not be a right, it should be a necessity, like oxygen and water. And rather than saying Internet for all, if it is not happening, all for Internet.

Rajnesh Singh
Okay, wonderful, all for Internet.

Well, we are a few minutes over time. So, I'm going to end it here. It's been an absolute pleasure to have you, all my panelists. Thank you so very much. And it also strikes me that I think we had a very insightful session, and it just so happens I saw someone writing insightful in the chat window as well. And, I hope everyone realizes we covered a wide range of issues, and we actually went quite deep into some of them as well, and that, I think, shows the range of issues that we need to deal with.

So, I have multiple takeaways from this session, but the one, that I think is the most striking for me, is that there's a need for urgency to connect people, we have a small window of opportunity -- I hate to say, but thanks to COVID, we have this small window of opportunity that I think we should leverage as much as we can. And then, of course, the other very critical thing, we need to take a multisector approach, if we can get the other sectors to apply pressure, I think we have a better chance of moving forward with this.

So, I hope everyone really enjoyed this. It's been a great two weeks with all the sessions. All of these sessions will be archived on archive.org, as well as livestream. So, please do consider reviewing them when you have time. Visit the website, cnxapac.org, where all of those links will be, including all the videos we've playedover the last two weeks, there's been -- so we played one video today, but every day, we've been playing three or four videos in a segment we call Voices from the Community. So, you actually hear from people on the ground, and what they've been doing, and they've come from all over the world, from Indonesia, from South America, from Africa, from all around the world, we collected these videos. And just to give you that human touch on what is the difference we are making when we deploy connectivity, because it's not just deploying connectivity, it's what people do with it that matters.

So, with that, thank you very much. I hope everyone's enjoyed this. Have a good weekend ahead, and please stay connected with us, InternetSociety.org, and we look forward to see you again very soon. Thanks to all the team who put this together. To my good friend Joly, who's always doing a lot of hard work in ensuring that we simulcast across various platforms. Much appreciated, Joly. We really appreciate all the efforts you put in.

And of course, for my team involved with me here today, the DEF team. Thanks very much. And Osama, you're smiling, you want to say something.

Osama Manzar

Thank you very much. It was really insightful., and a lot of fun actually, yeah. This is going to be a lot of value when we segregate all your videos and comments in a different way, and then propagate on social media, and hopefully that will create an impact.

Rajnesh Singh

Wonderful, and I hope we can do this all again, to my panelists. So, with that, thank you very much. And see you again soon. Cheers